

673868

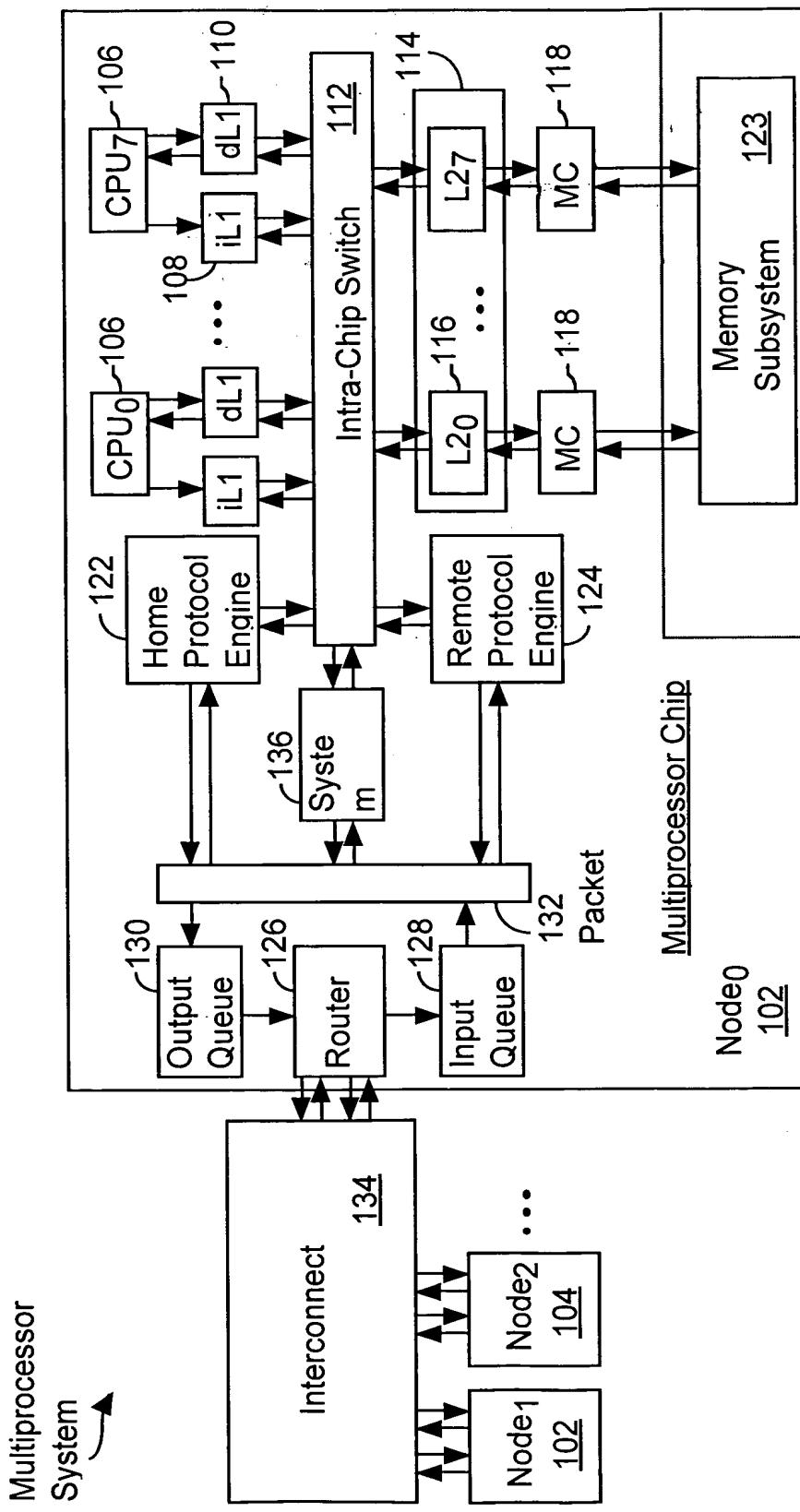


Figure 1

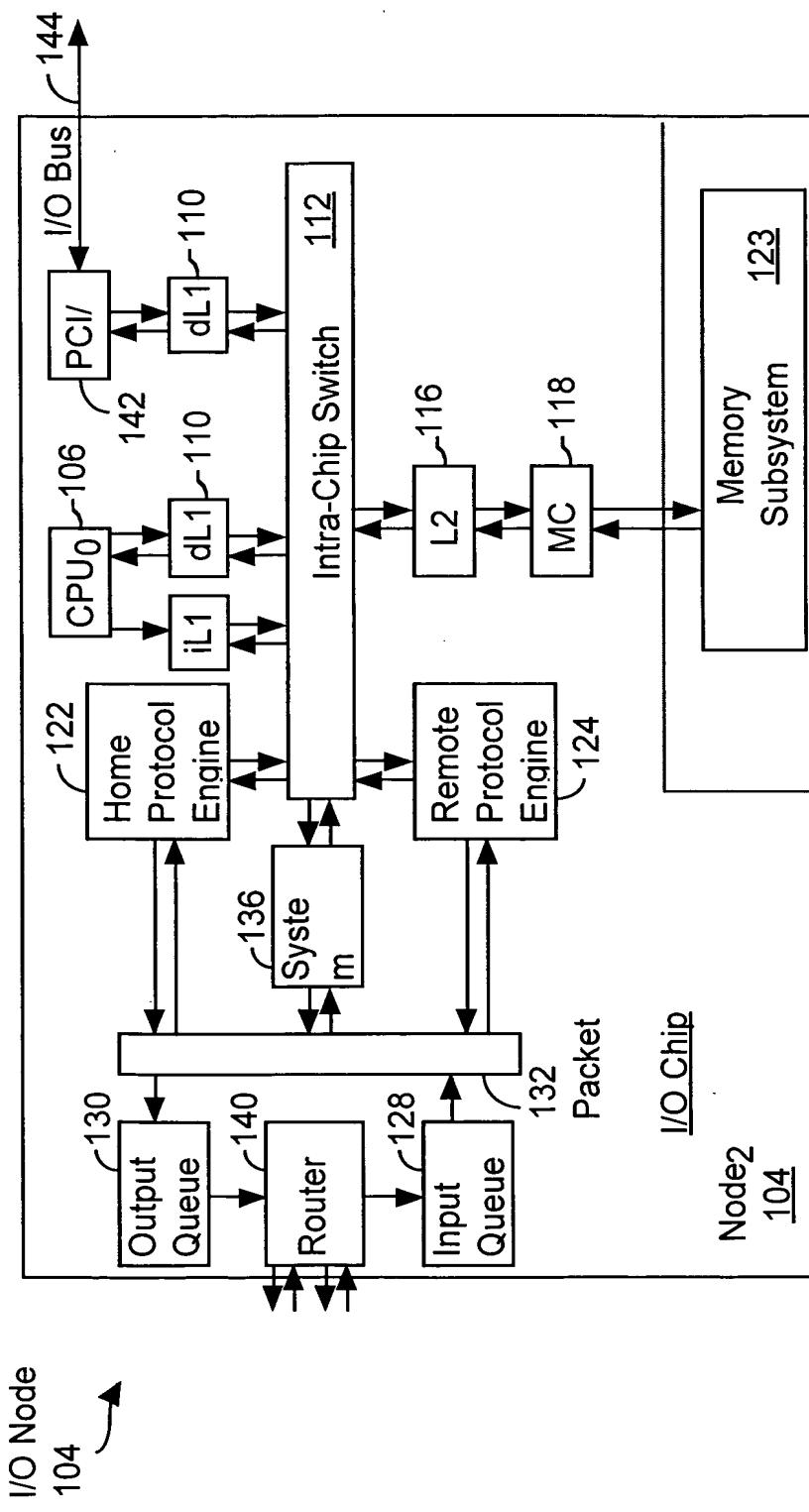


Figure 2

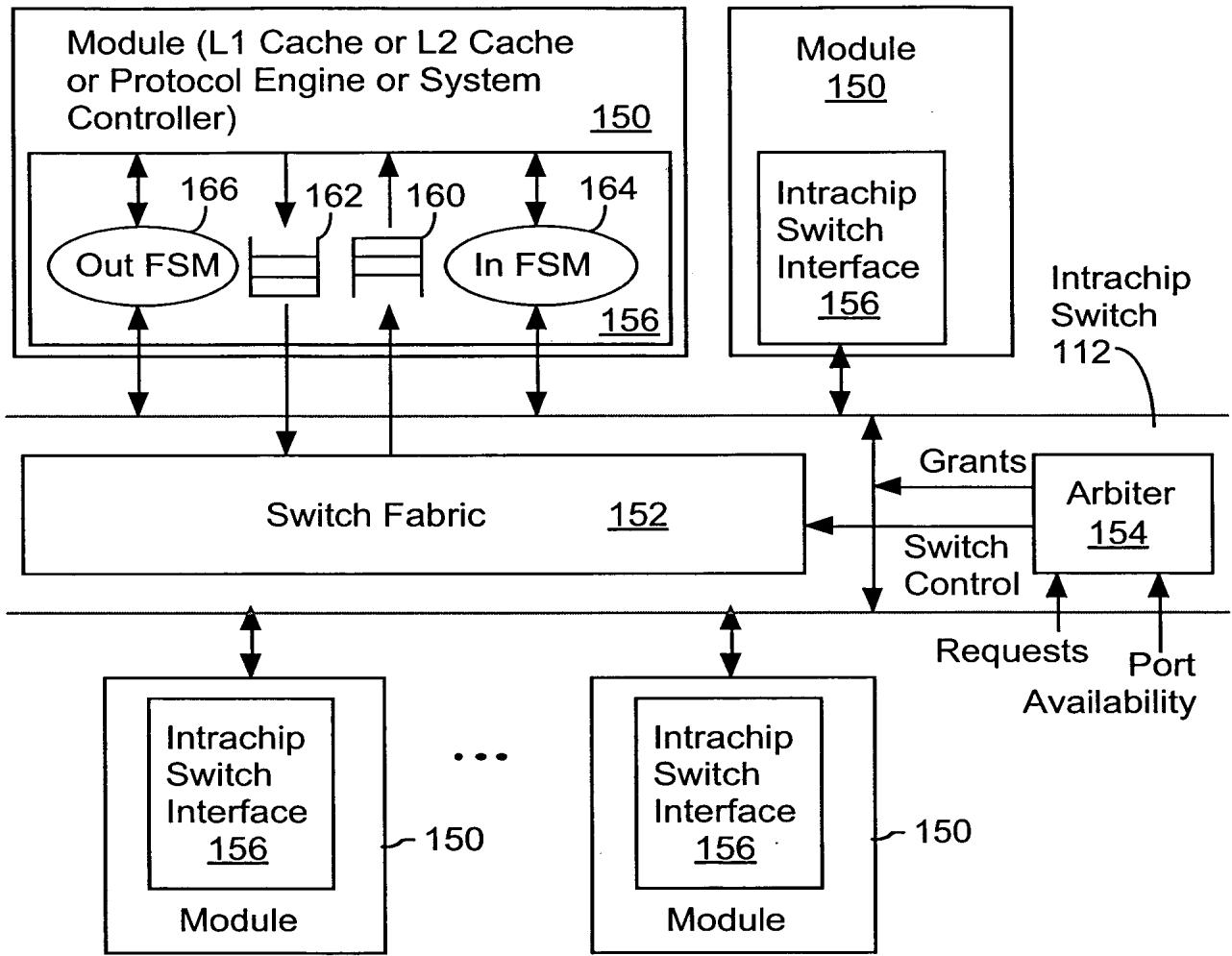
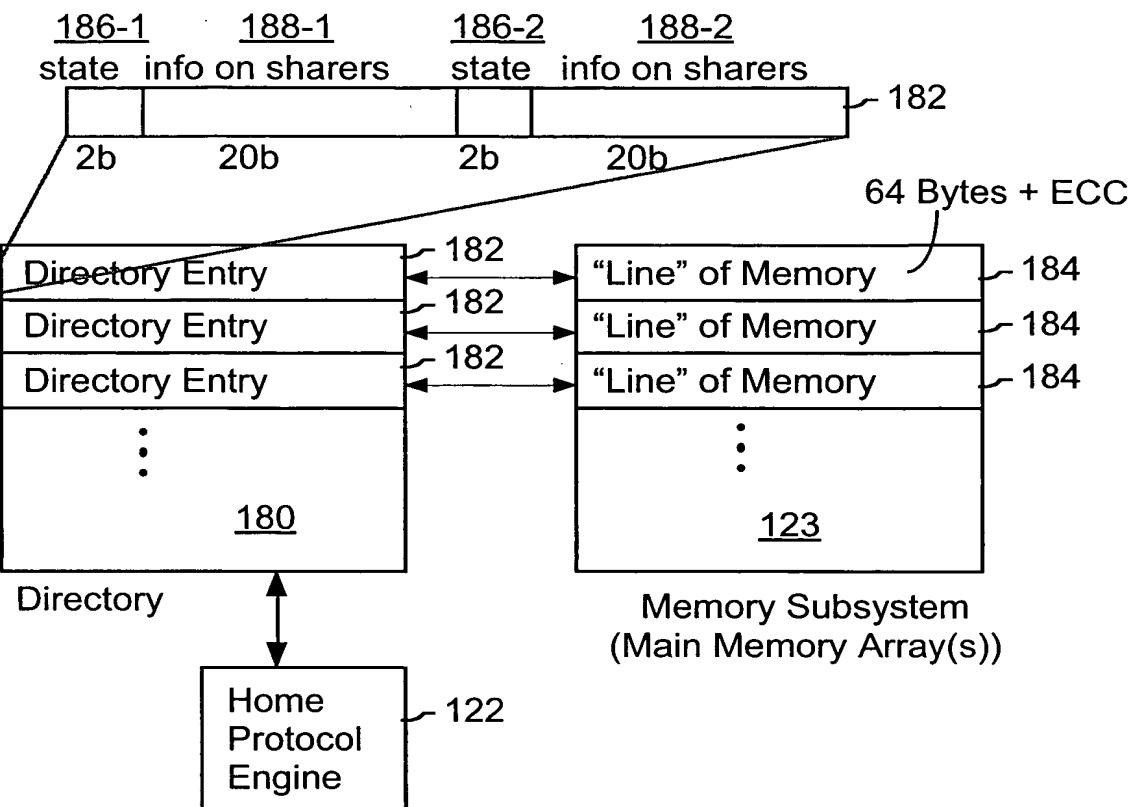


Figure 3

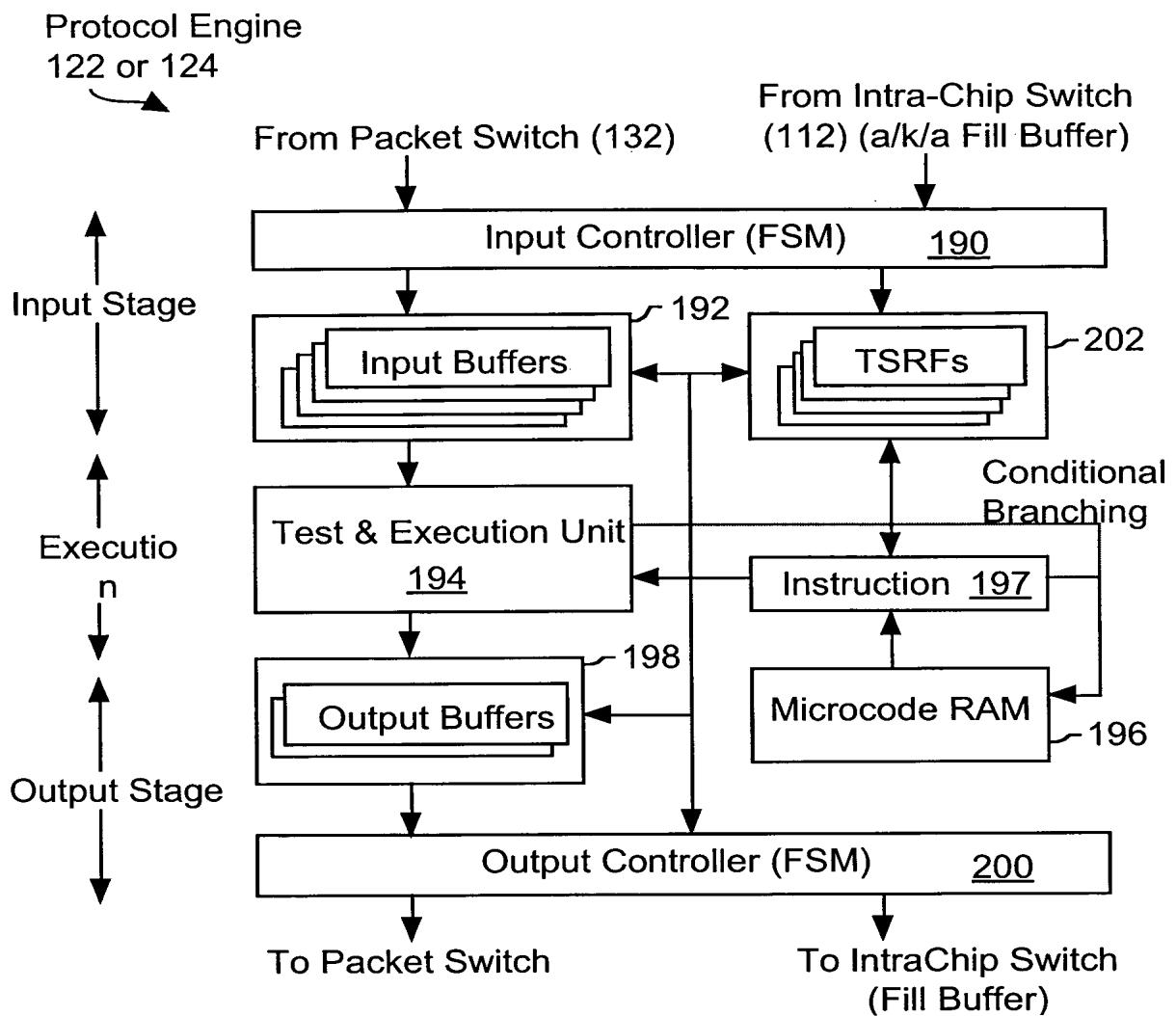
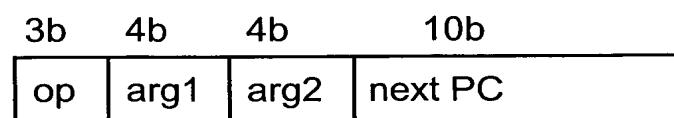


Directory State	Description
invalid	no remote copies
exclusive	exclusive remote copy
shared	one or more shared remote copies (limited pointer)
shared-cv	one or more shared remote copies (coarse pointer)

Node to Bit and Bit to Node AssignmentTable
(for sharer information field 188, coarse vector format)
189 ↗

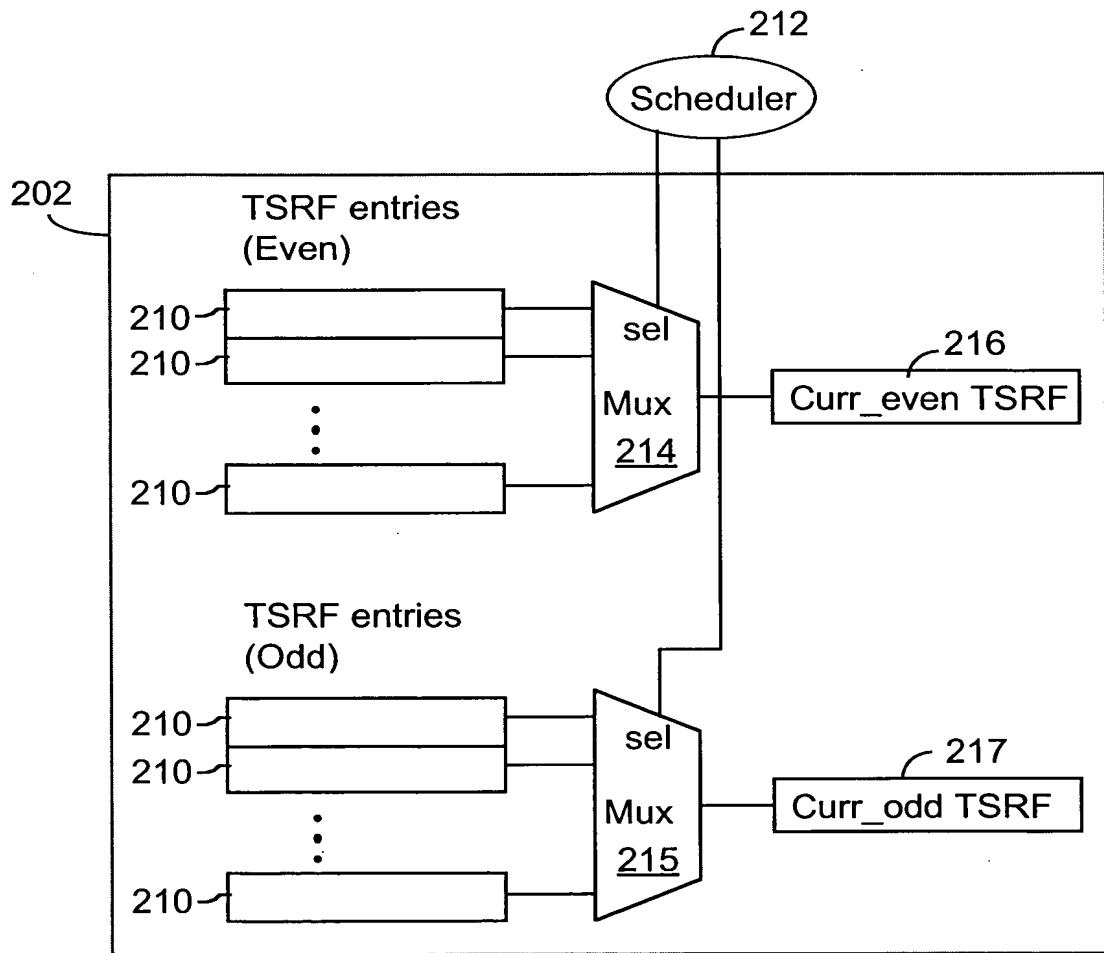
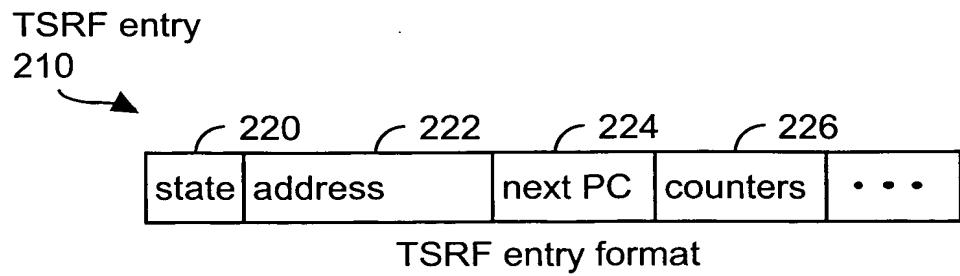
	0	1	2	3	4	5	35	36	37	38	39	
0	[0]	1	2	3	4	34	35	36	37	38	39
1	40	41	42	43	73	74	75	76		...	

Figure 4

**Figure 5**

Microcode Instruction Format

Figure 6A

**Figure 6B****Figure 6C**

	Even Cycle	Odd Cycle	Even Cycle	Odd Cycle
Execute	Even Tx	Odd Tx	Even Tx	Odd Tx
μCode Read	Odd Tx Instr	Even Tx Instr	Odd Tx Instr	Even Tx Instr
Schedule	Next Even	Next Odd Tx	Next Even	Next Odd Tx
TSRF Read	Odd TSRF	Even TSRF	Odd TSRF	Even TSRF

Incorporate condition codes into determination of next PC for μCode Read

Figure 7A

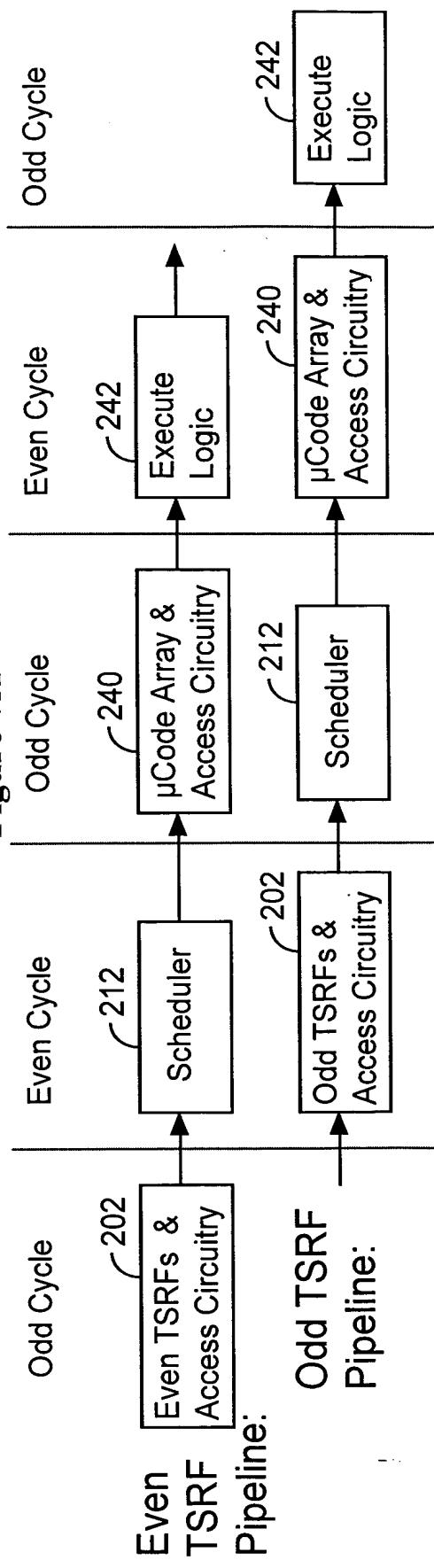
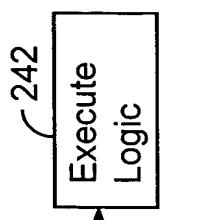


Figure 7B



TSRF State Transistions

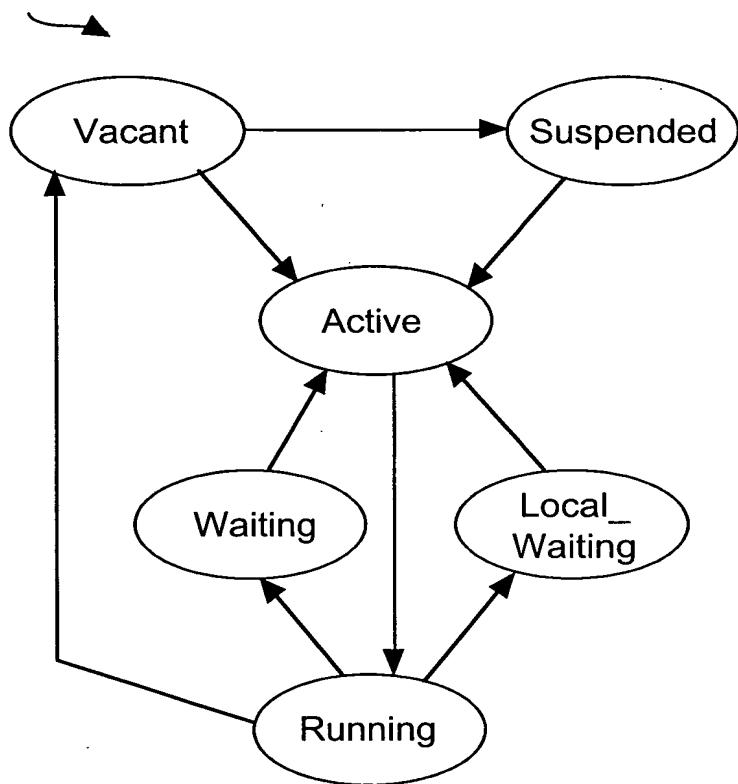
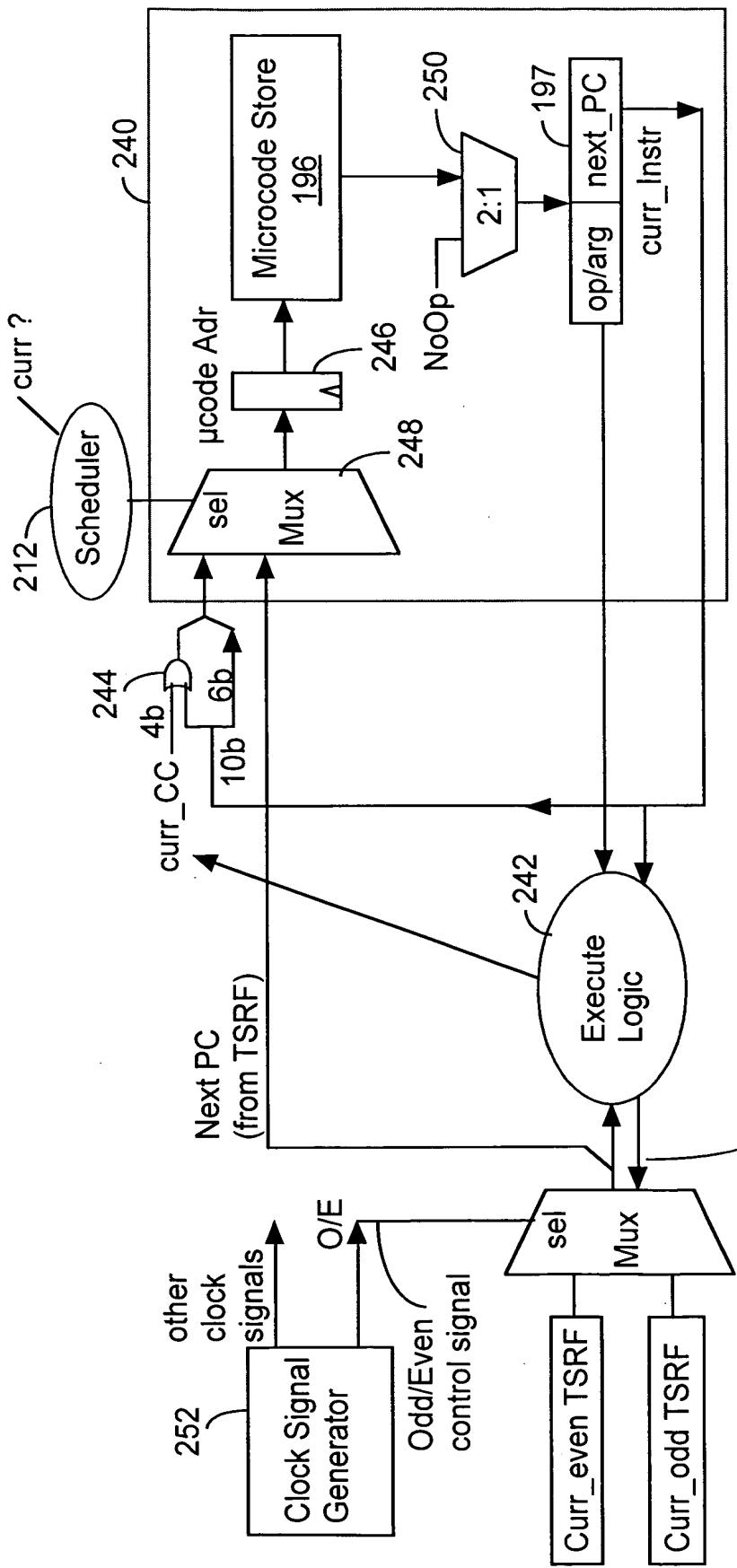
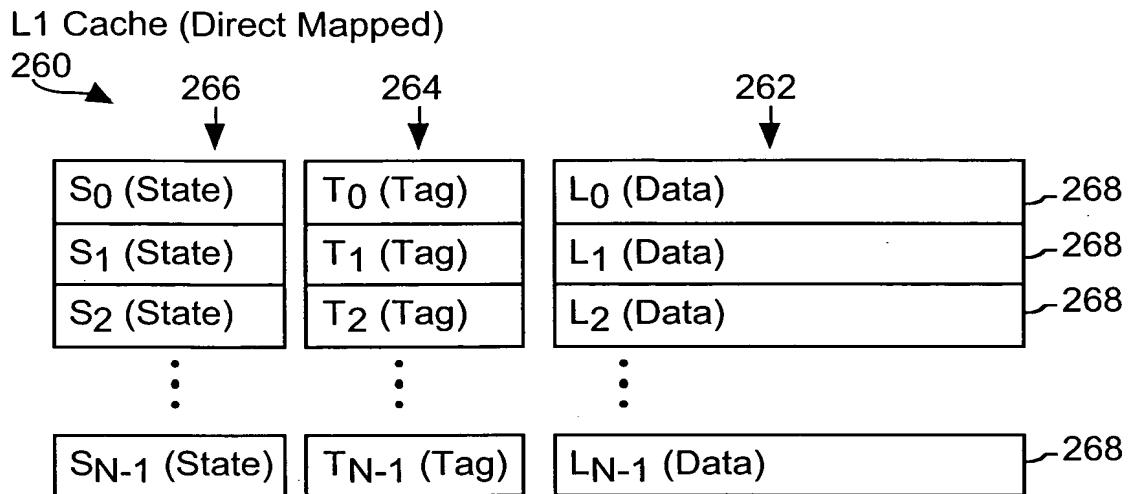


Figure 7C



Update State, Counters,
Next PC, etc. of Current
TSRF

Figure 8



For Direct Mapped L1 Cache:

Address Bit Groups = ABCD

Line Address = ABC

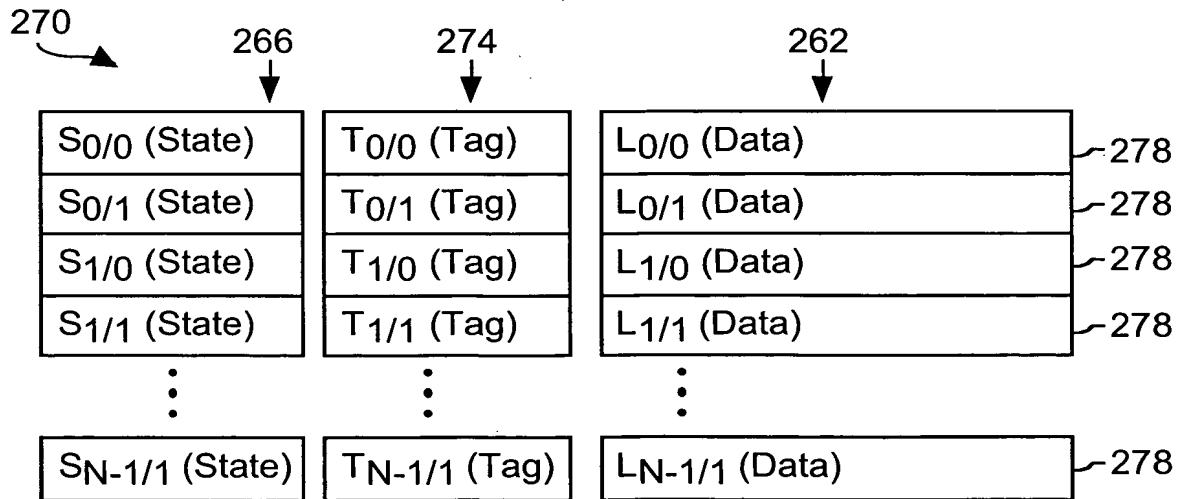
Tag = A

Cache Index for Line = BC

State = invalid, shared, clean, exclusive, dirty, exclusive

Figure 9A

L1 Cache (2 Way Set Associative)



For 2-way Set Associative Cache:

Address Bit Groups = ABCD

Line Address = ABC

Tag = AB

Cache Index for Line = C

Figure 9B

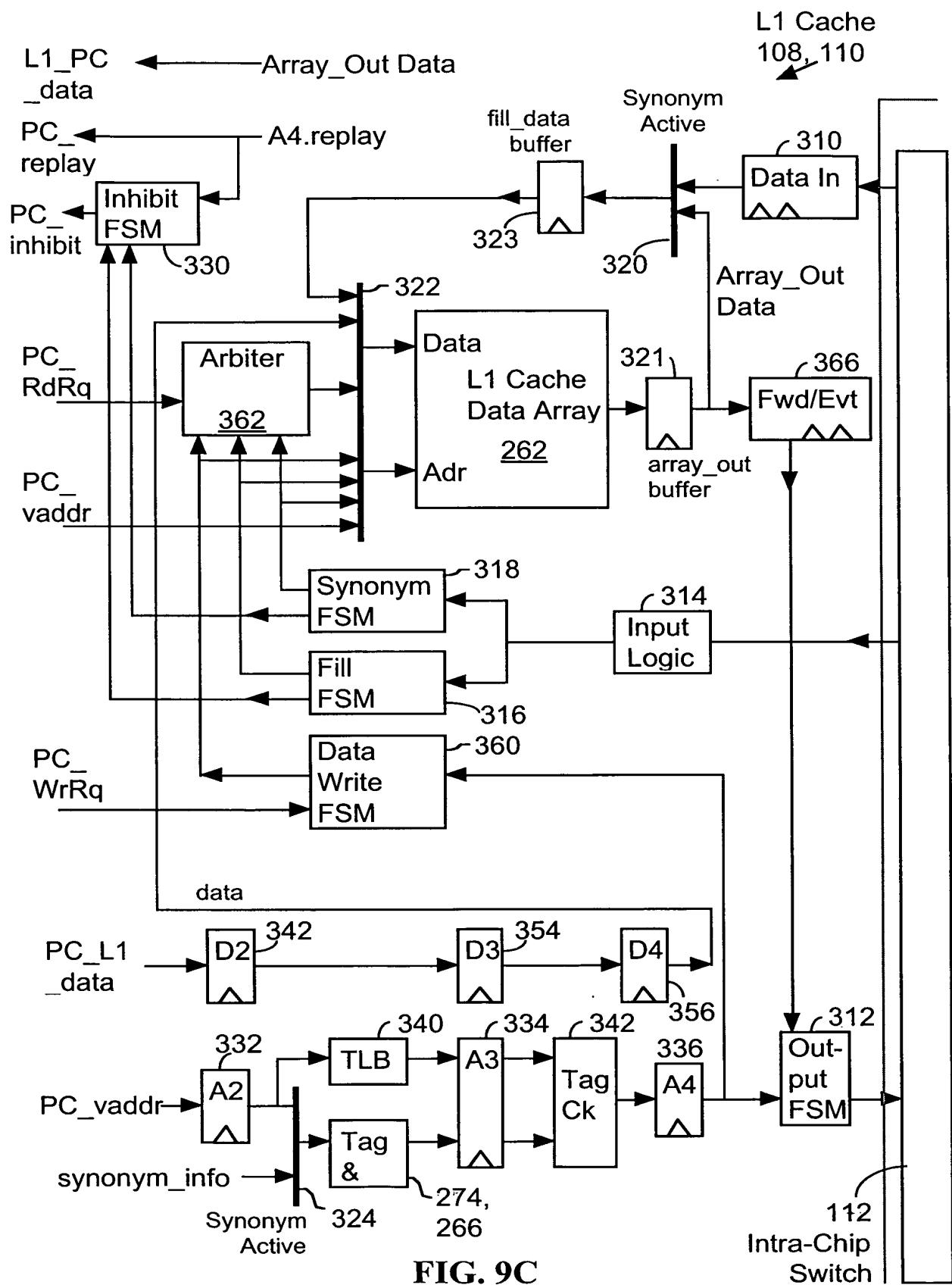
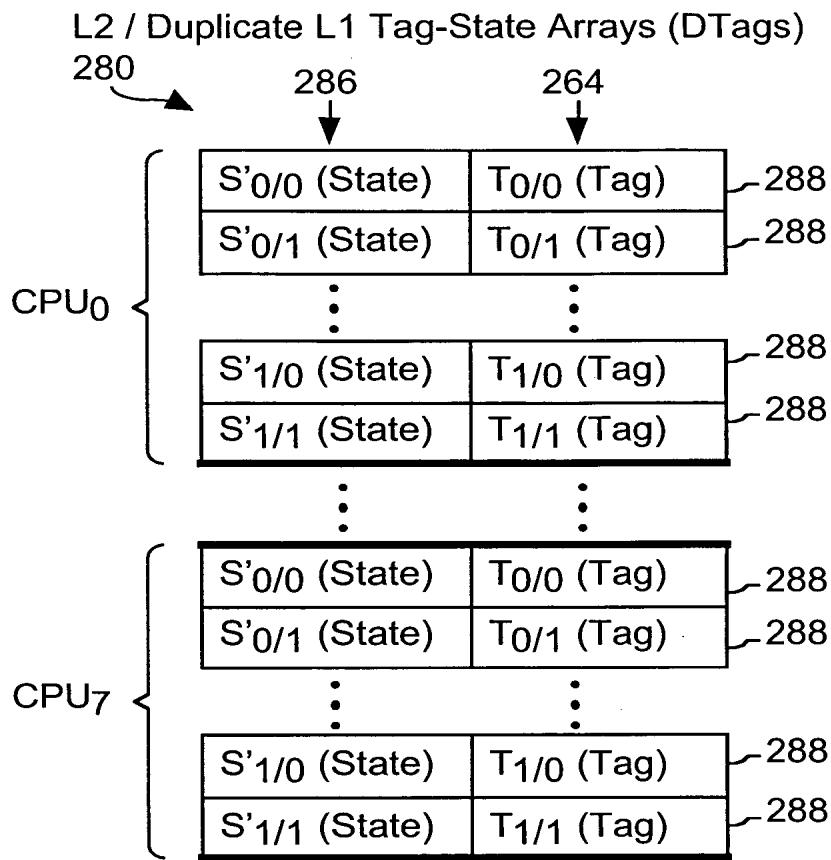
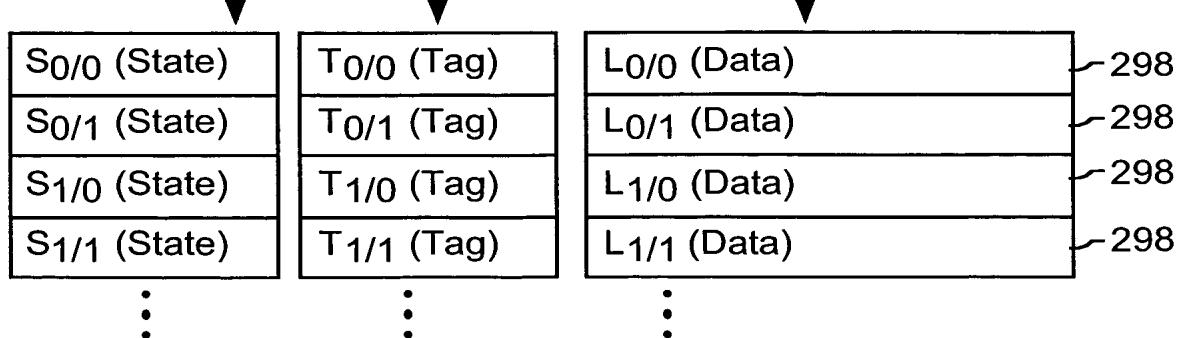


FIG. 9C

**Figure 10A**

L2 Cache (2 Way Set Associative)

290

**Figure 10B**

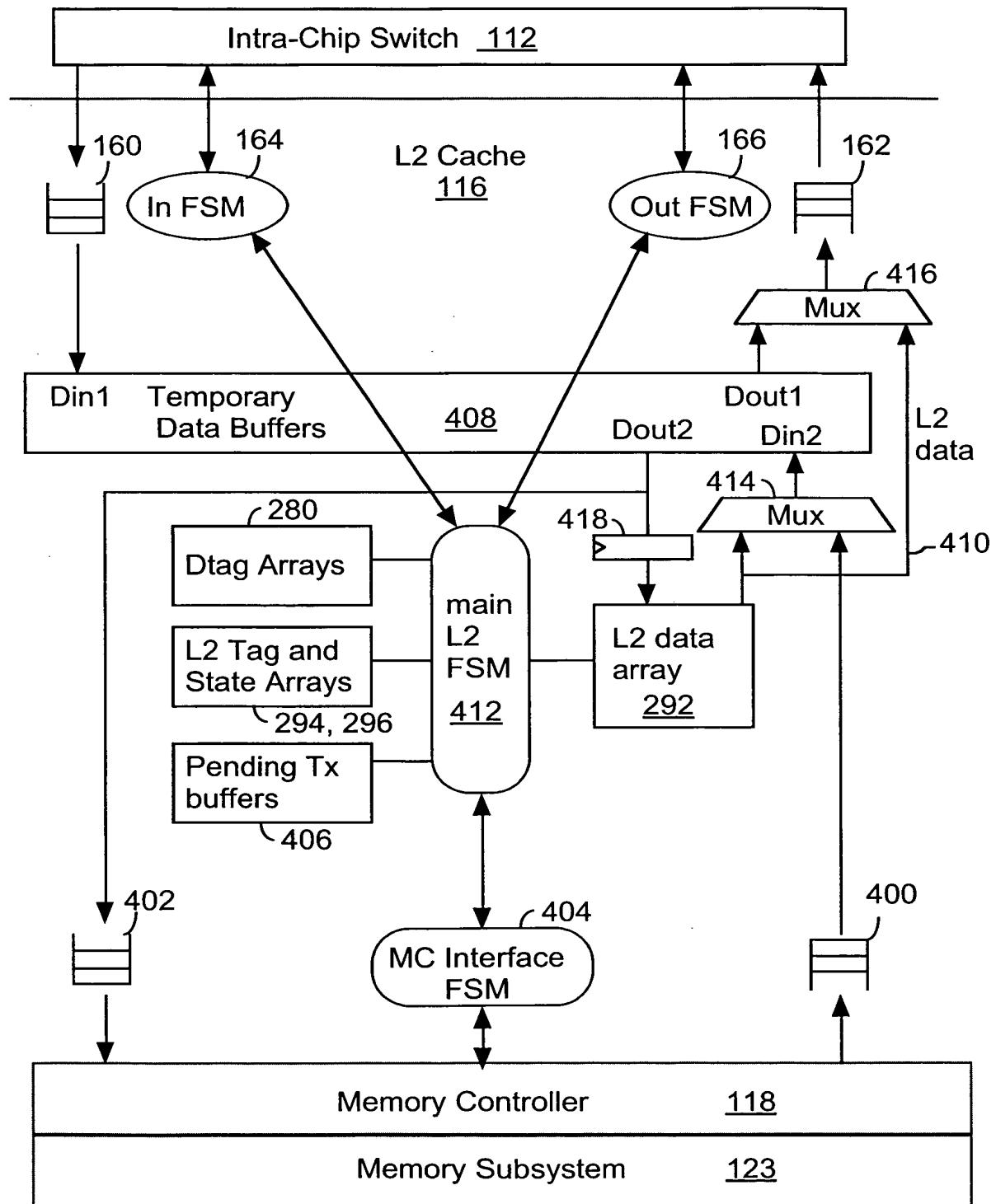
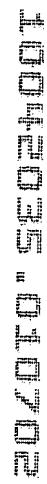


FIG. 10C

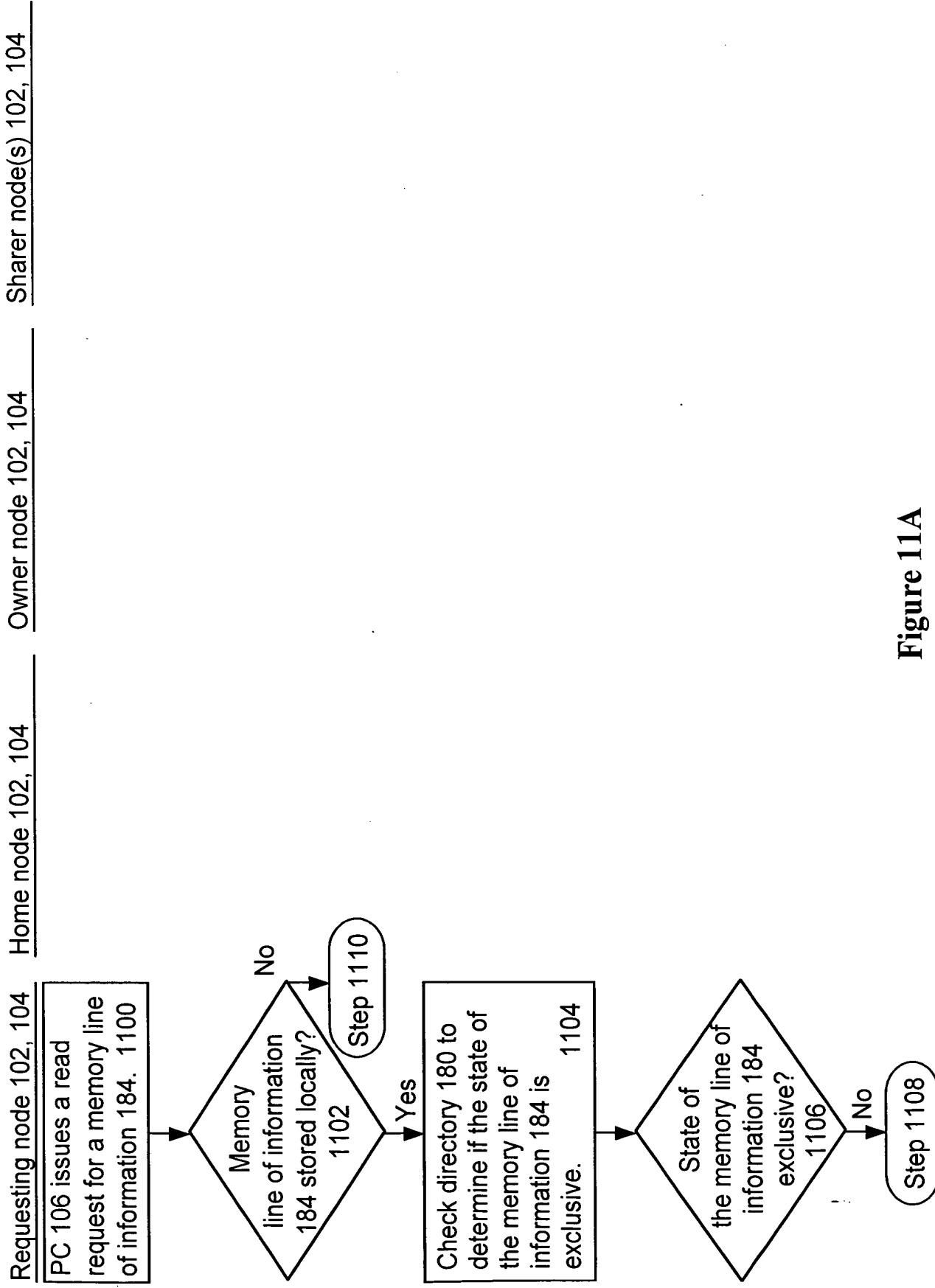


Figure 11A

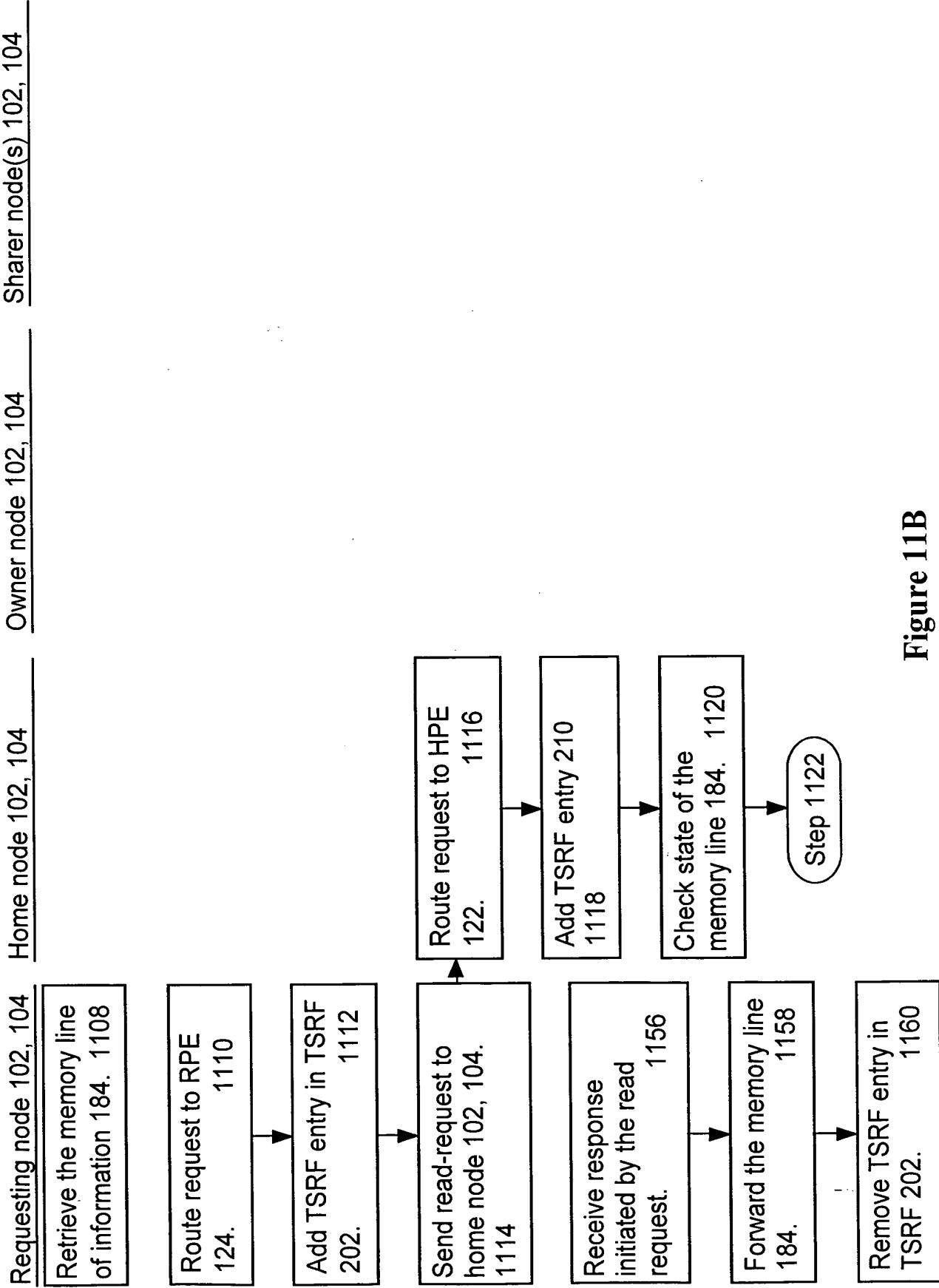


Figure 11B

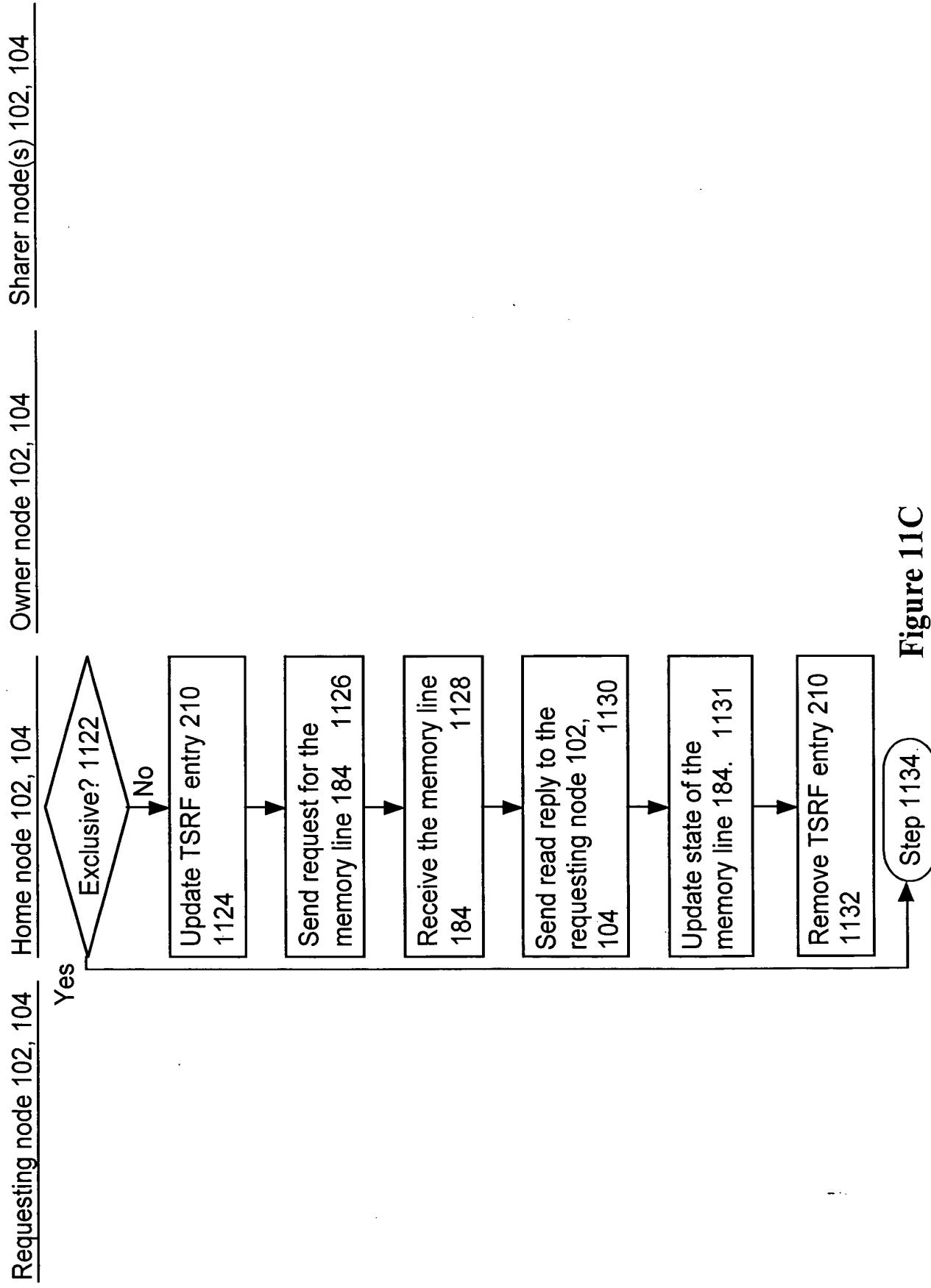


Figure 11C

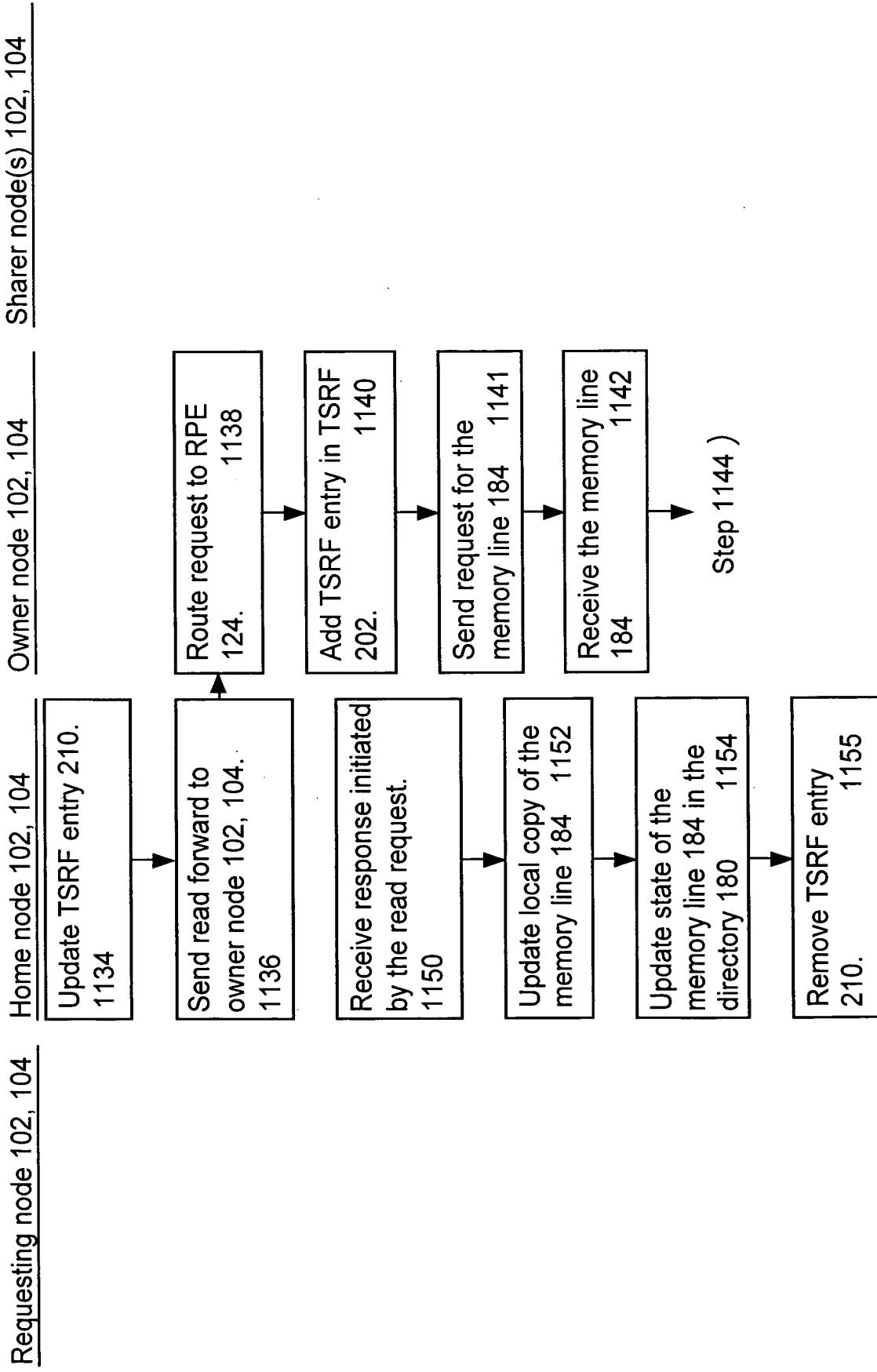


Figure 11D

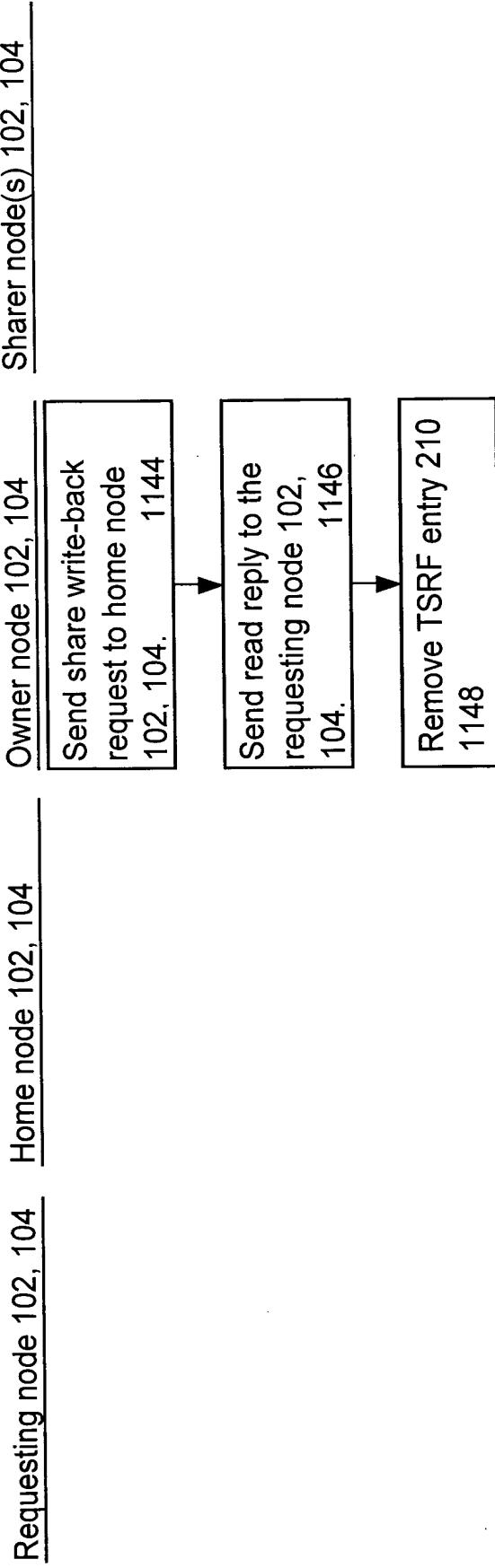


Figure 11E

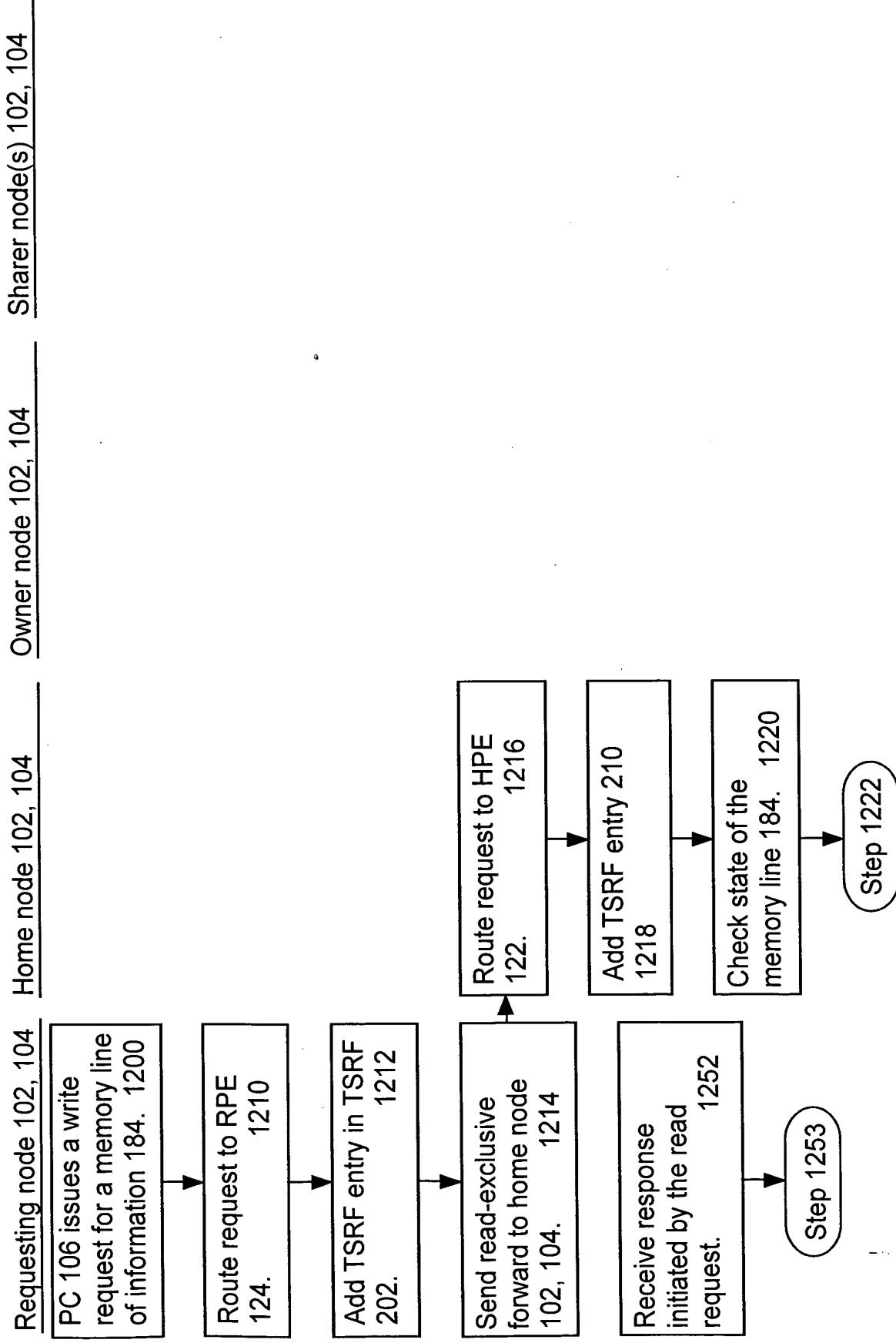


Figure 12A

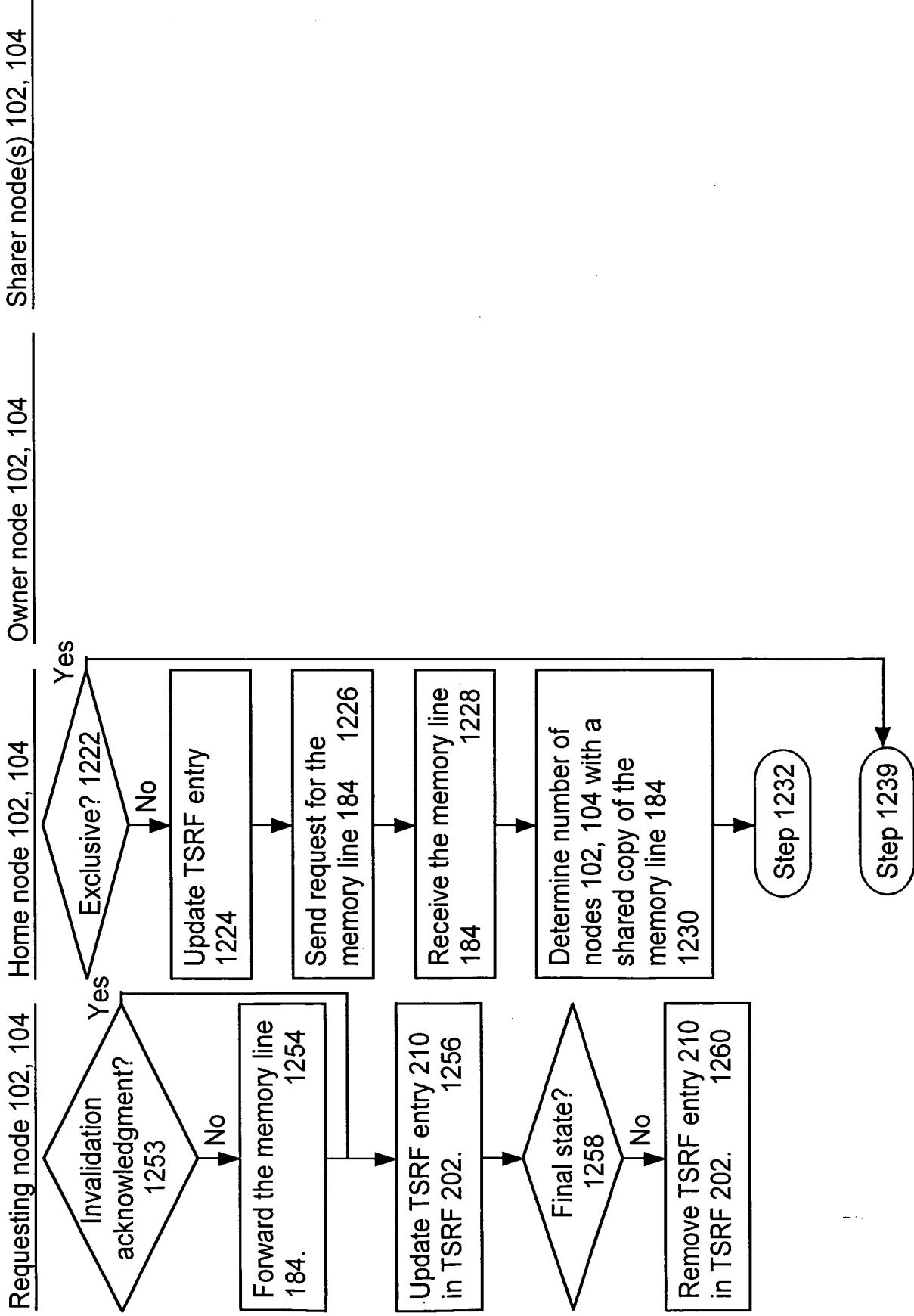


Figure 12B

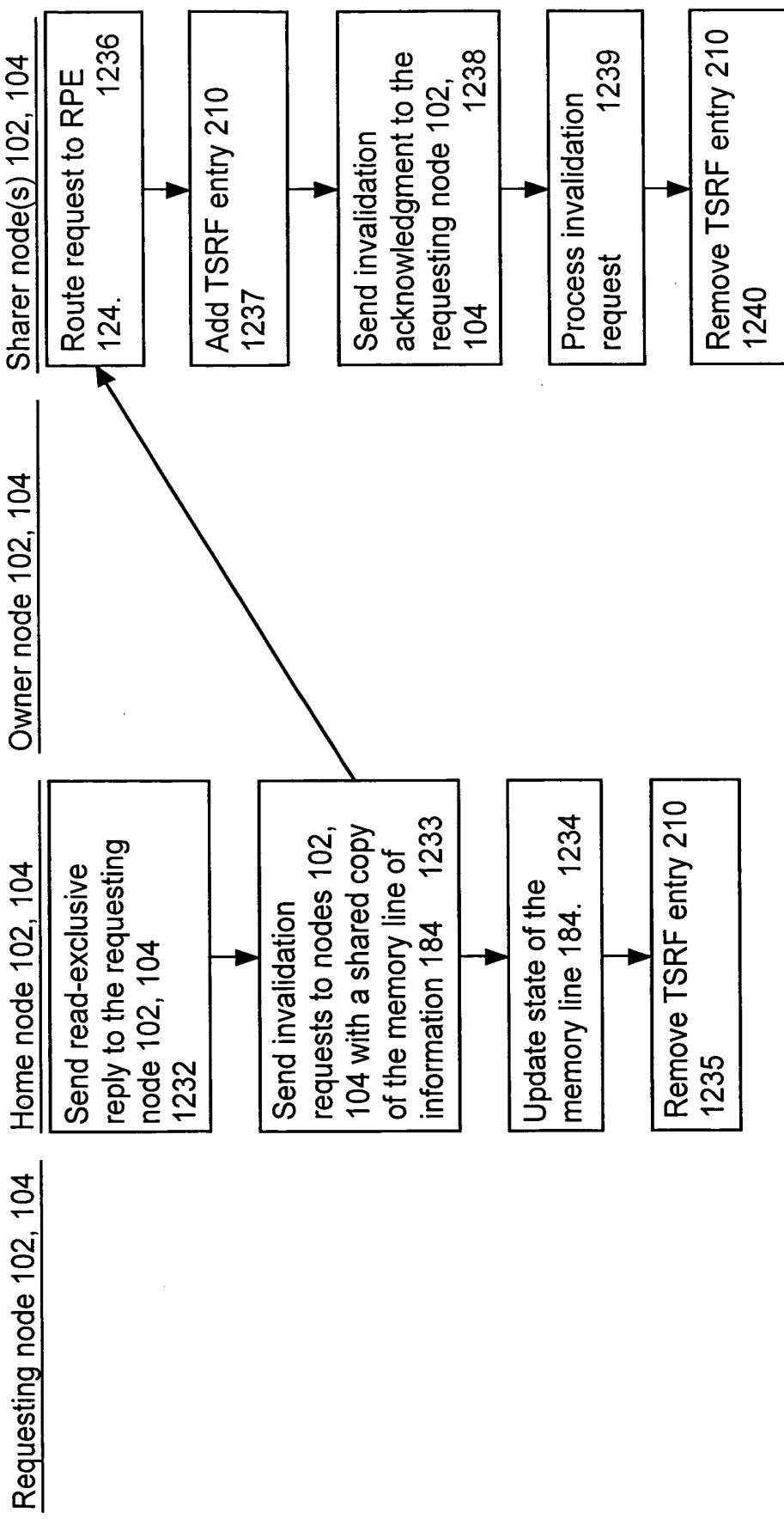


Figure 12C

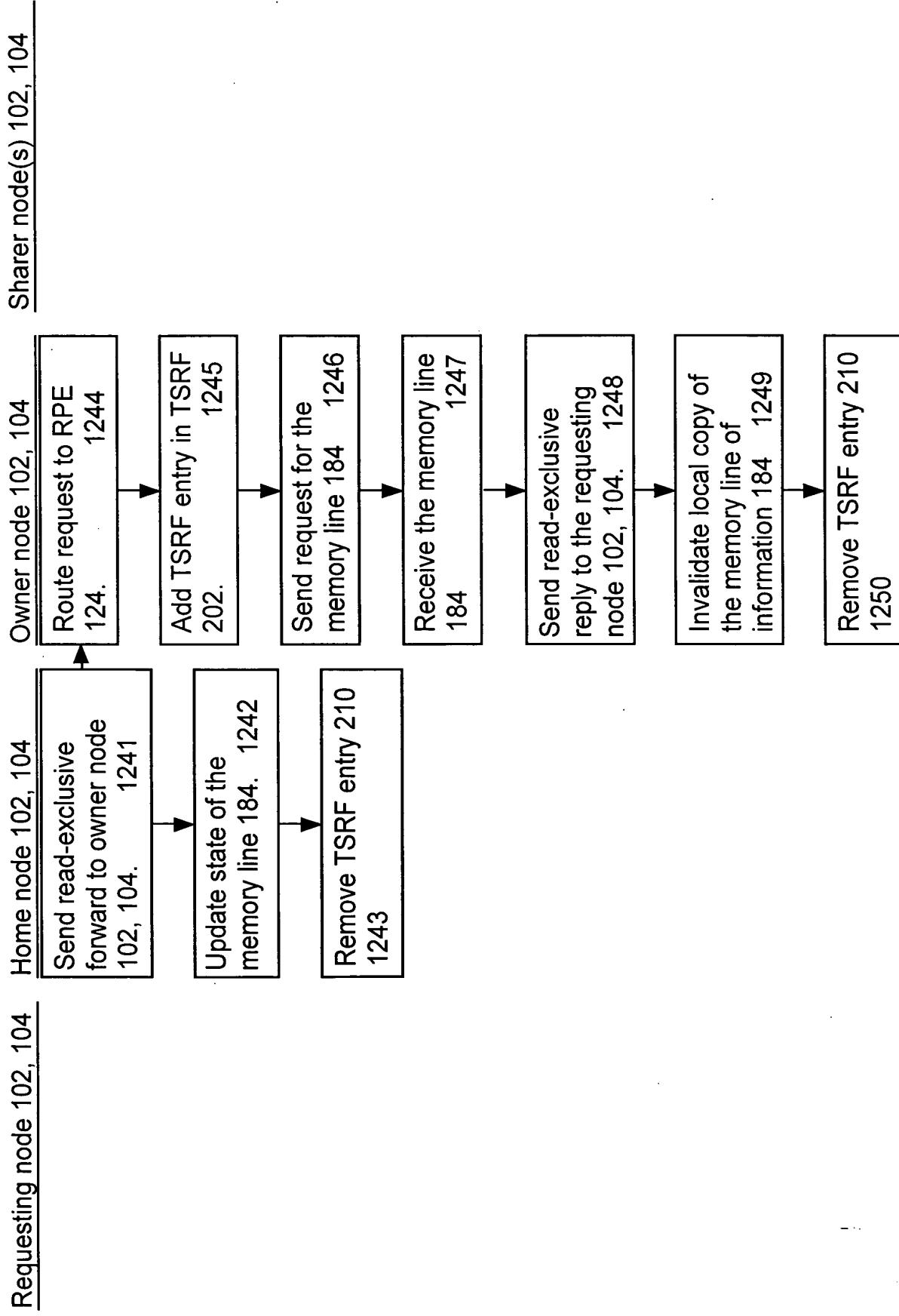


Figure 12D

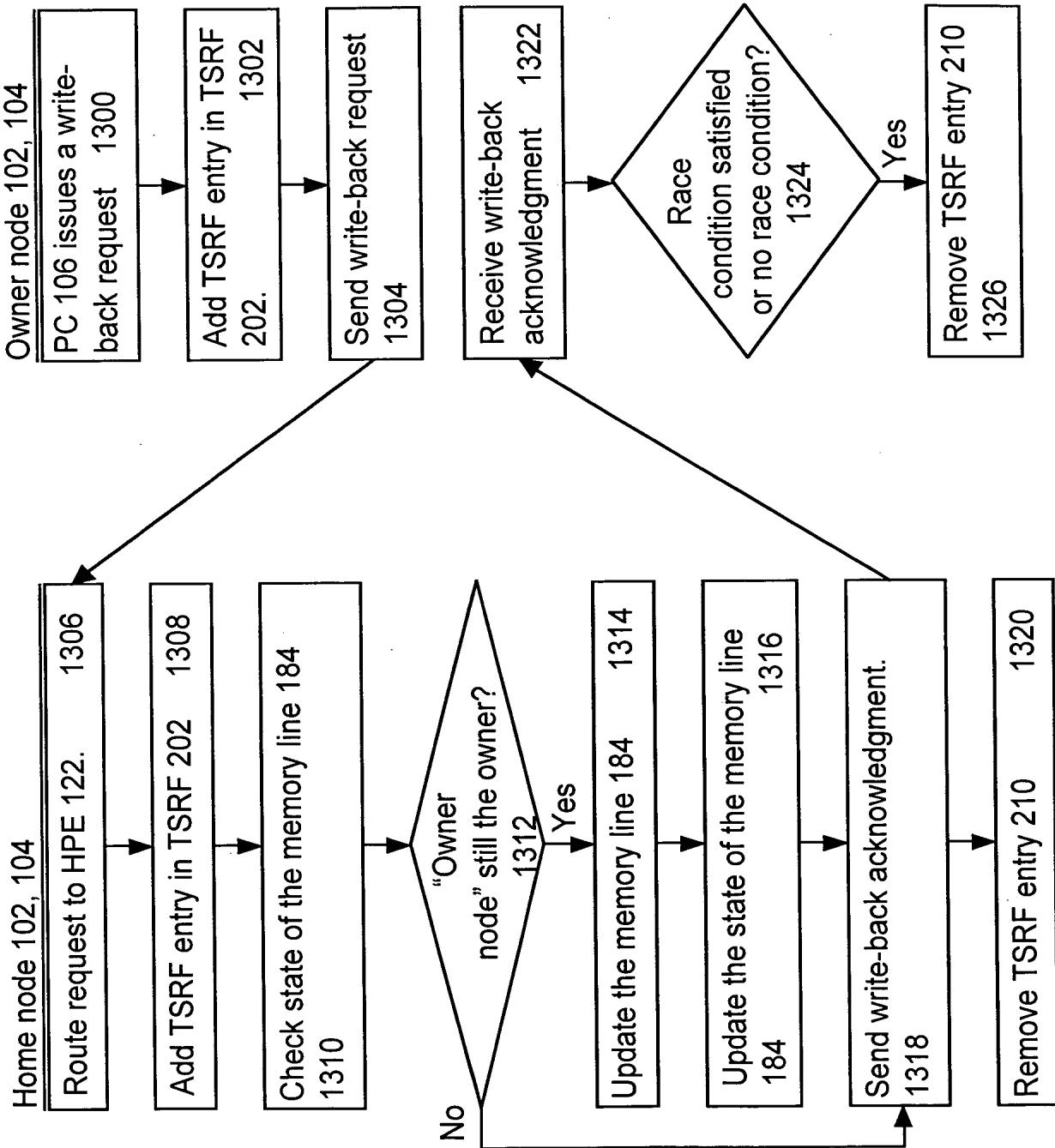


Figure 13

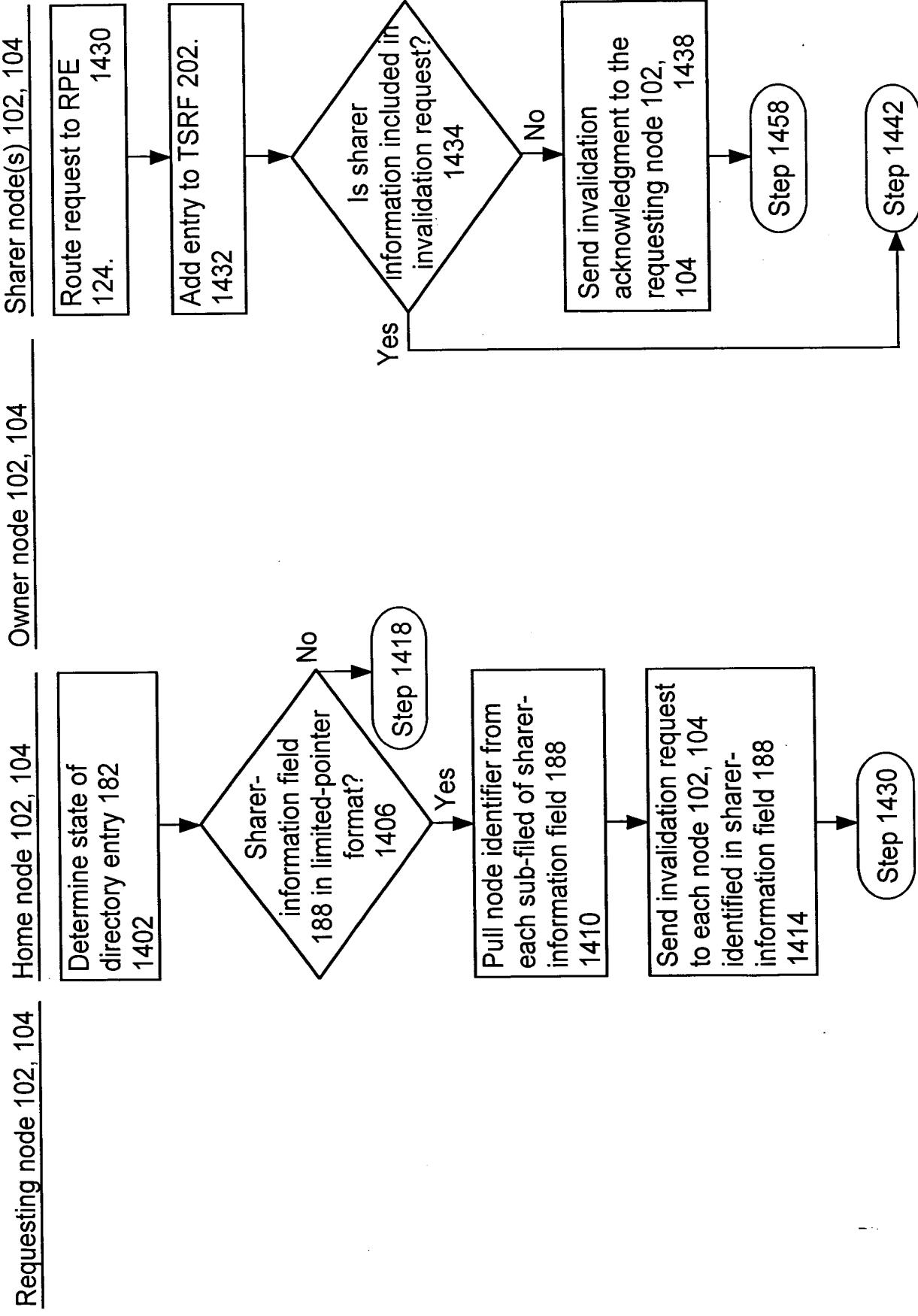


Figure 14A

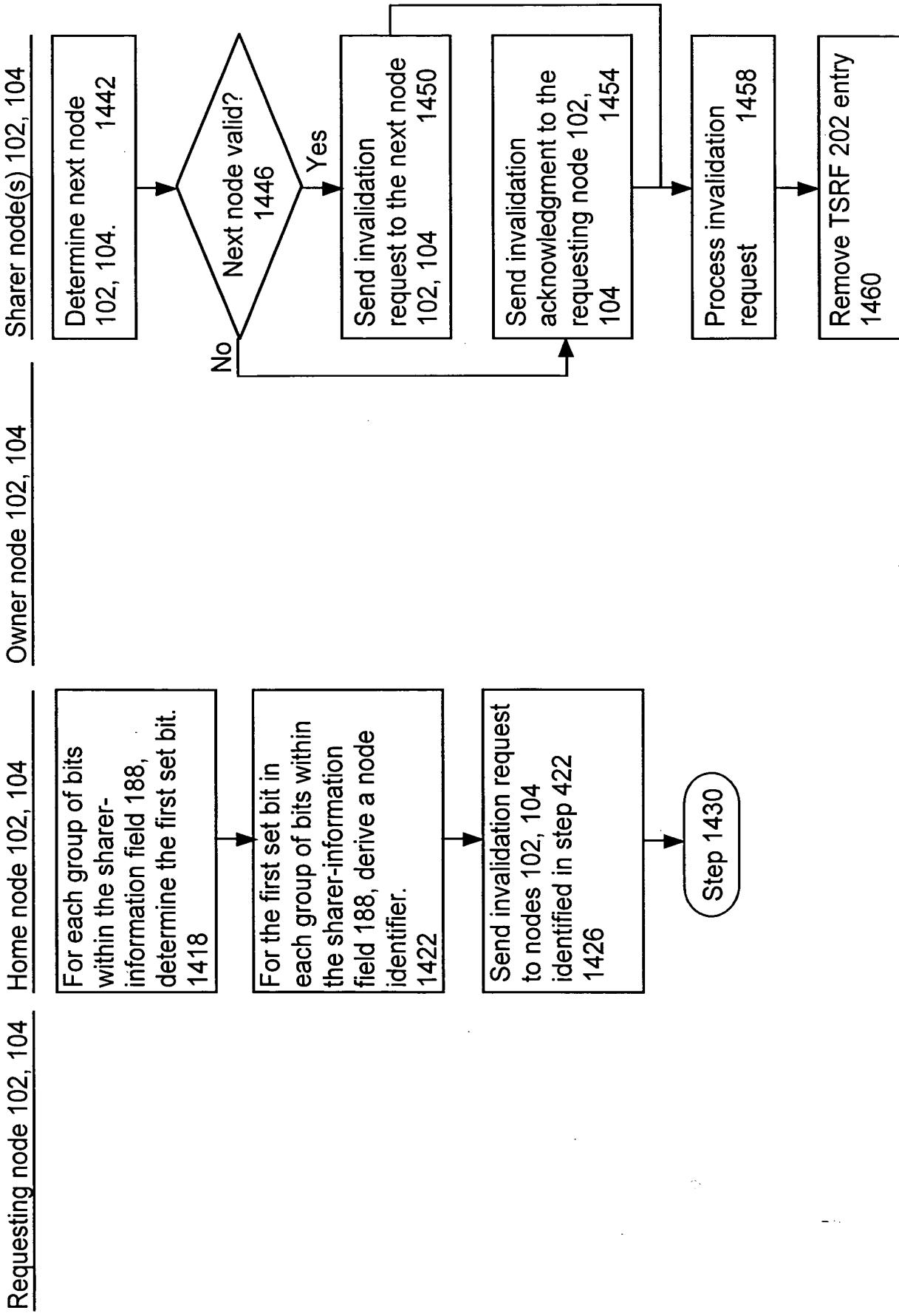
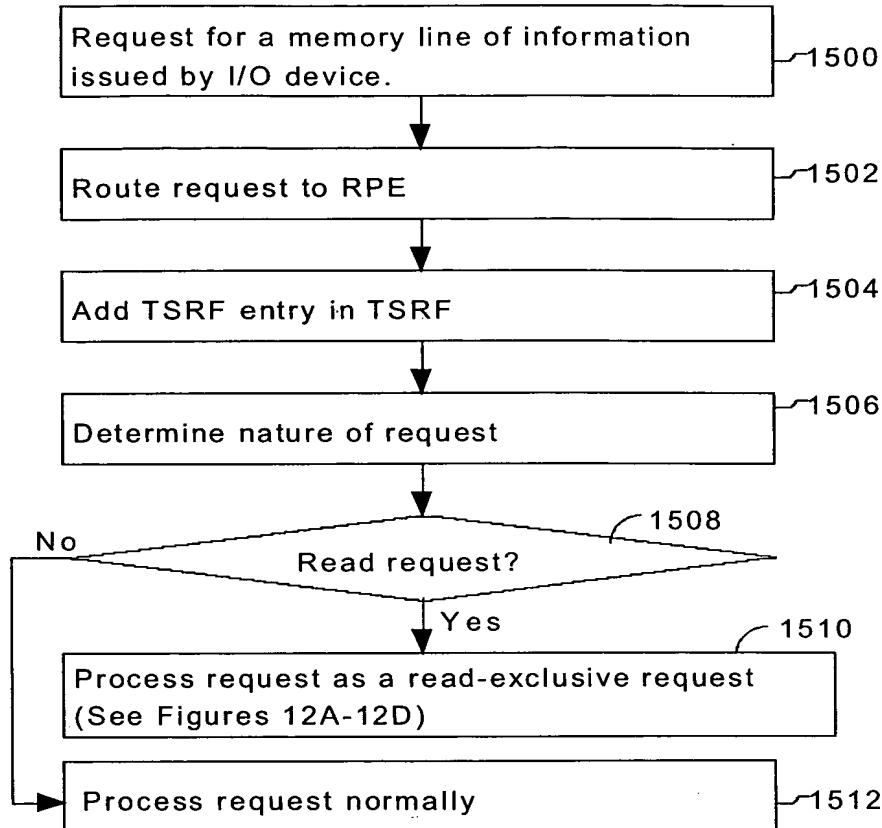
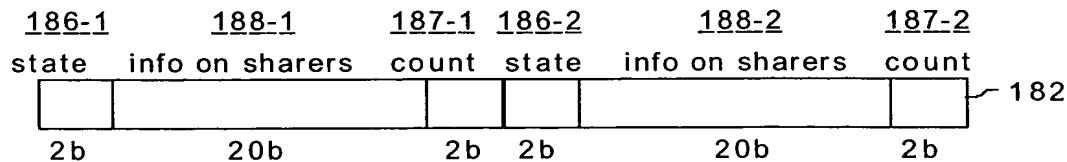
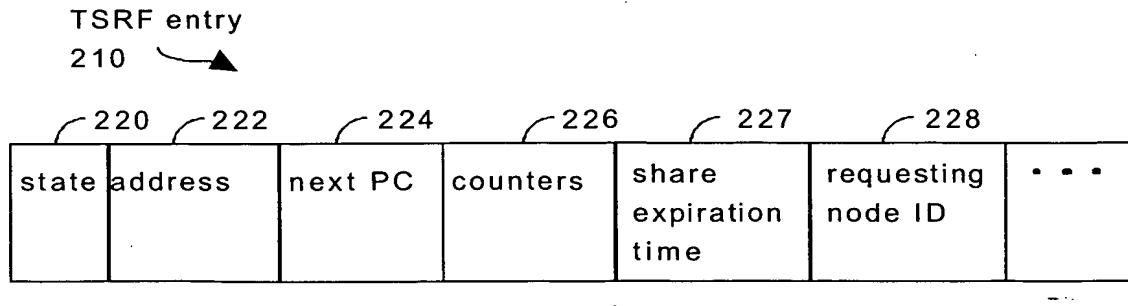


Figure 14B

Requesting (I/O) node 104**Figure 15****Figure 17****Figure 18**

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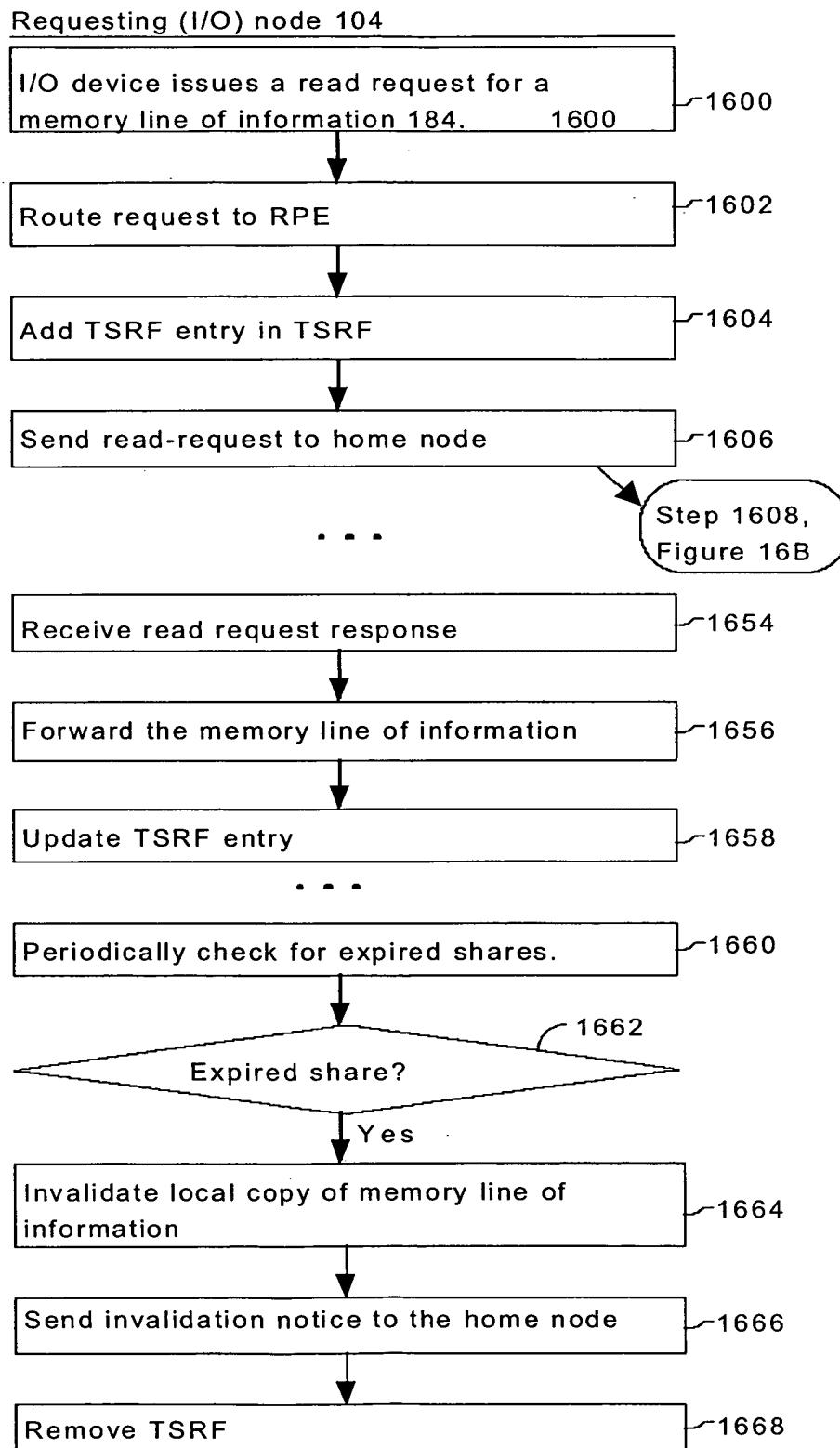


Figure 16A

FOOTER: 36107402

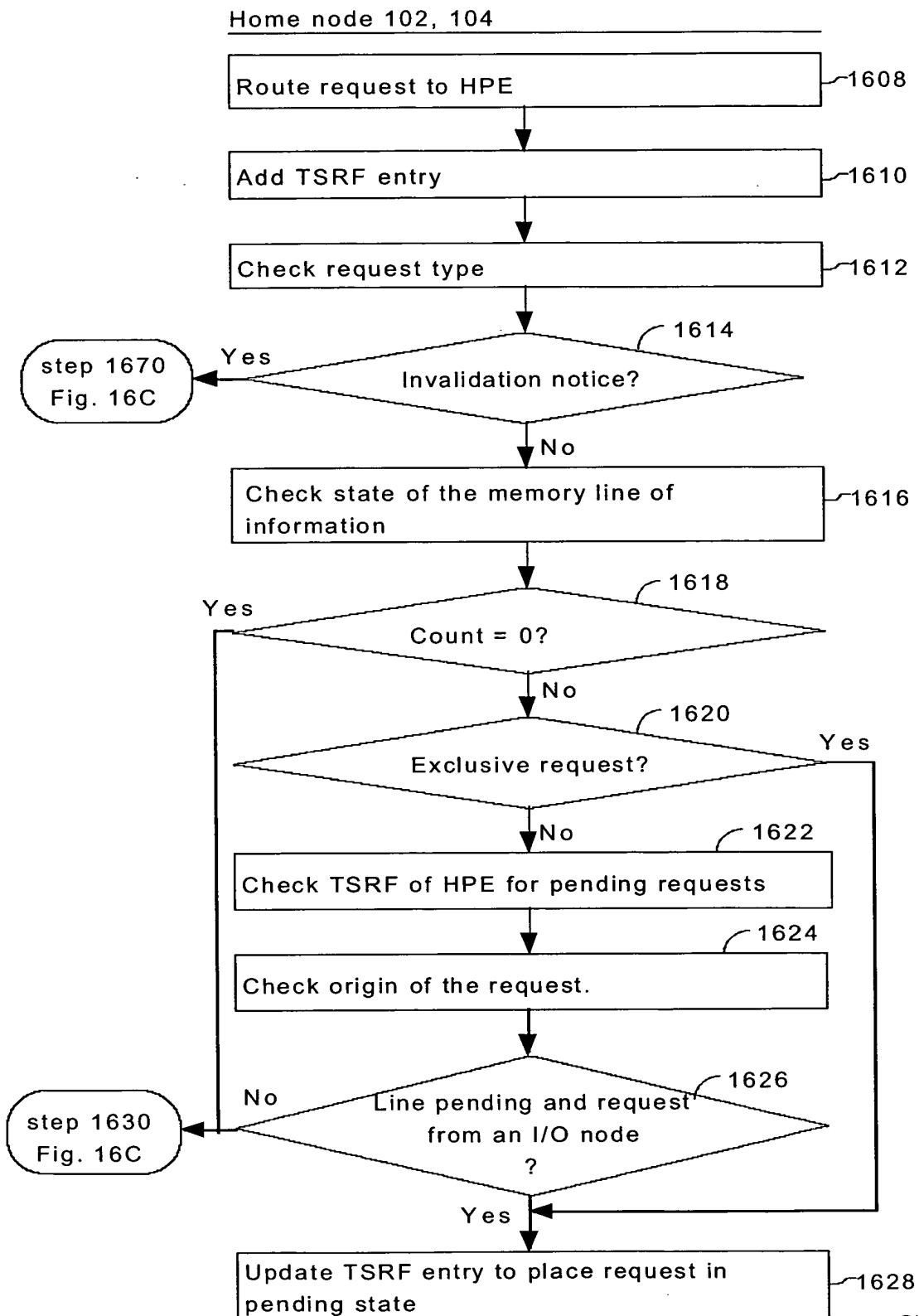


Figure 16B

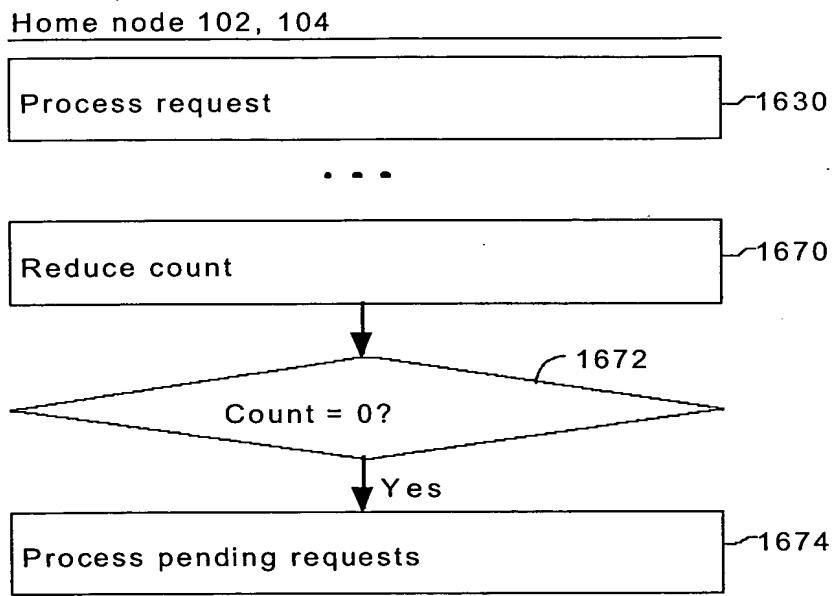


Figure 16C